

**REMARKS**

Claims 1-15 and 24-25 are pending in the present application. Claims 16-23 have been withdrawn from consideration.

Claims 1, 6, 10-13 and 24-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, U.S. Patent No. 5,374,413 ("Kim") in view of van Slooten, U.S. Patent No. 4,992,245 ("van Slooten") in view of Chen et al., U.S. Patent No. 5,234,526 ("Chen").

Claims 2-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of van Slooten in view of Chen in view of Stroder, WO Application No. 2004/056452 ("Stroder").

Claims 7-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of van Slooten in view of Chen in view of Hardwick et al., U.S. Patent No. 4,490,287 ("Hardwick").

Claims 1-15 and 24-25 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/540,433.

The claims have not been amended. The attached listing of claims is provided for the Examiner's convenience only. Reconsideration of the application in view of the following remarks is respectfully requested.

**Rejections of Claims 1-13 and 24-25 under 35 U.S.C. § 103(a)**

Claims 1, 6, 10-13 and 24-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim, U.S. Patent No. 5,374,413 ("Kim") in view of van Slooten, U.S. Patent No. 4,992,245 ("van Slooten") in view of Chen et al., U.S. Patent No. 5,234,526 ("Chen"). Claims 2-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of van Slooten in view of Chen in view of Stroder, WO Application No. 2004/056452 ("Stroder"). Claims 7-9 were rejected

under 35 U.S.C. § 103(a) as being unpatentable over Kim in view of van Slooten in view of Chen in view of Hardwick et al., U.S. Patent No. 4,490,287 ("Hardwick").

Kim describes a fluidized bed reactor where microwaves are introduced through waveguides 24a and 24b and then through the reactor walls in front of the waveguides. See Kim, the Abstract, column 9, lines 52-57, column 10, lines 10-13, and Figure 3.

Van Slooten describes a fluidized bed reactor where silane-containing gas and hydrogen gas are, in isolation of each other, passed into vessel 12 through a perforated gas distributor plate 25. See van Slooten, column 8, lines 50-65 and Fig. 1.

Chen describes a microwave plasma processing device characterized by a low reflection factor of microwaves which is capable of generating homogenous plasma in a stable and effective manner. Under reference to Figs 3-5, Chen places sample S on sample stage 7 inside sample chamber 3, supplies gas both into plasma generation chamber 1 and into sample chamber 3 through gas supply tubes 1g and 3g, and introduces microwaves into plasma generation chamber 1 through waveguide 2, microwave lead-in opening 1c and microwave-penetrable substances 8 and 9. See Chen, column 7, lines 22-26, column 9, lines 17-27 and Fig. 3-5.

Stroder describes a method for the thermal treatment of granular solids in a fluidized bed reactor in which microwave radiation is fed from a microwave source into the reactor and to a corresponding plant. See Stroder, the Abstract.

Hardwick describes the treatment of substances contained in a solution or slurry including subjecting the solution or slurry to microwave radiation. Hardwick describes introducing a microwave source into an oven 4 by means of a wave guide 5 with distribution occurring with the aid of an oven mode stirrer 6. See Hardwick, the Abstract, column 1, lines 21-28, column 7, lines 30-33 and Figure 1.

Independent claim 1 of the present application recites a method for thermal treating granular solids in a fluidized-bed reactor comprising "supplying the microwave radiation to the mixing chamber through the at least one gas supply tube wherein the at least one gas supply tube is a wave guide."

It is respectfully submitted that none of Kim, van Slooten or Chen teach or suggest supplying microwave radiation to the mixing chamber through at least one gas supply tube wherein

the at least one gas supply tube is a wave guide, as is recited in claim 1 of the present application. The Office Action acknowledges that Kim in view of van Slooten does not disclose the at least one gas supply tube being a waveguide. See Detailed Action at page 3, lines 17-19. Nor does Chen cure this defect. In contrast, Chen supplies gas both into plasma generation chamber 1 and into sample chamber 3 through gas supply tubes 1g and 3g while introducing microwaves into the plasma generation chamber 1 through waveguide 2, microwave lead-in opening 1c and microwave-penetrable substances 8 and 9. See Chen, column 7, lines 22-26, column 9, lines 17-27 and Fig. 3-5. Chen's gas supply tubes 1g and 3g are not waveguides, as required by claim 1. Chen therefore does not teach or suggest supplying microwave radiation to the mixing chamber through the at least one gas supply tube wherein the at least one gas supply tube *is a wave guide*, as recited in claim 1. Nor do either of Stroder and Hardwick cure the defect of a combination of Kim, van Slooten and Chen.

With respect to Stroder, it is respectfully submitted that Stroder is not prior art to the present application because its effective date of November 14, 2003 is after the priority date, December 23, 2002, of the present application. A verified translation of DE 102 60 745.1, to which the present application claims priority, including a statement that the translation is accurate, was submitted for the Examiner's consideration to perfect the priority date of December 23, 2002 with the Applicants' response dated July 10, 2009.

Because each of Kim, van Slooten, Chen, Stroder and Hardwick are missing at least the above-recited feature of claim 1, it is respectfully submitted that any combination of Kim, van Slooten, Chen, Stroder and Hardwick, to the extent proper, could not render claim 1, or any of its dependent claims, obvious.

For the above reasons, reconsideration and withdrawal of the respective rejections of claims 1-13 and 24-25 under 35 U.S.C. § 103(a) based on respective combinations of Kim, van Slooten, Chen, Stroder and Hardwick is respectfully requested.

**Nonstatutory Obviousness-Type Double Patenting Rejection**

Claims 1-15 and 24-25 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/540,433.

It is respectfully submitted that a Notice of Abandonment was issued for Application No. 10/540,433 on April 14, 2009 for failure to respond to a Restriction Requirement. Applicants respectfully submit that Application No. 10/540,433 is therefore no longer copending and that the nonstatutory obviousness-type double patenting rejection is therefore moot.

For the above reason, reconsideration and withdrawal of the rejection to claims 1-15 and 24-25 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/540,433 is respectfully requested.

Application No. 10/540,497  
Amendment dated March 22, 2010  
Reply to Office Action of December 23, 2009

Docket No.: 20941/0211429-US0


**CONCLUSION**

In view of the above arguments, applicants believe the pending application is in condition for allowance.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, including any additional filing or application processing fees required under 37 C.F.R. §1.16 or 1.17, or to credit any overpayment, to Deposit Account No. 04-0100.

Dated: March 22, 2010

Respectfully submitted,

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